GUI Concepts for Novice, Intermediate, & Expert Users
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January 28, 1997

ECS Level 3/4 Requirements

IMS-0490 The IMS shall provide levels of user interaction support to include at a minimum:

a. Expert (e.g., quick command driven direct information input)

b. Intermediate (e.g., some prompting and automatically supplied help)

c. Novice (e.g., extensive prompting and help facilities)

ECS interpretation:

S-CLS-12920	Option for Expert level interaction
S-CLS-12930	Expert: direct information input w/o automatically-supplied help
S-CLS-12940	Option for Intermediate level interaction
S-CLS-12950	Intermediate: prompting and automatically-supplied help
S-CLS-12960	Option for Novice level interaction
S-CLS-12970	Novice: prompting and automatic help facilities for user-initiated actions

Targeted User Description

I. NOVICE

- User types: (a) Brand New User, (b) Infrequent User (non-science), (c) Infrequent User (senior scientist)
- No/limited experience in use of web client tool
- No/limited knowledge of ECS data types & schema
- May be a recognized expert in their area of specialty
- Therefore, user's mental model of ECS is generalized and unstructured with respect to ECS data structures

II. INTERMEDIATE

- Moderate/heavy experience in use of web client tool
- Diversified knowledge of ECS data types & schema, with 'deep' knowledge in area of scientific specialty
- Competent user of graphical user interface-driven software
- Consequently, user's mental model of ECS is structured and generally maps 'monotonically' to ECS data structures

III. EXPERT

- Power User (Intermediate + competency in command line interfaces + willing to assume adverse consequences of own errors)

Novice Level Interaction

Client Search operations:

- **Simple top-down, topical hierarchical search patterns**
- **Linear step-search sequences (step---> forward; step--->backward; repeat)**
- **Single search -- returns ---> single result sets mapping**

Client Search Results operations:

- **1 result set per search (no capability to merge multiple result sets)**
- **1 result screen with capability to prepare 1 working set of products for order**
- **Result screen is the working list, to support transition to order**

Client Order operations:

- **1 result set/working list ---> 1 order**

Client prompts & help

- **User prompts present unless dismissed by user**
- **User help persistent unless dismissed by user (web help)**

Novice Hierarchical Search

Project Folder	Create/Edit Search	Inspect Results	Create/Edit Order	Get Status	Set Options

In order to create your search, first choose the attributes with which you wish to work.

There are two methods of selection.
1) You may choose from the list of preset groups.

Select Preset Attribute Set....

You may also bypass this process and simply choose the default.

Select Default Attribute Sets

2) You may create your own customized list.

Create a custom set of attributes...

The attribute groups you select will be displayed as individual folders under the search tab when you click "OK"

OK

Preset Groups

CORE
Product Specific
Oceanographic
Geographic
Atmospheric
Volcanic
Vegetation

Attributes

- Site
- Platform
- Spatial
- Temporal
- Topic
- Parameter
- Collection
- Instrument/Sensor
- Processing Level
- Size

First, select from the preset groups of attributes...

Submit for Order   **Help**

Novice Search Results Screen

| Project Folder | Create/Edit Search | Inspect Results | Create/Edit Order | Get Status | Set Options |

Collections/Granules	Spatial	Temporal	Instrument/ Sensor	Processing Level	Size

Results 1

| Select Attributes | Sort Attributes | Sort Data | |

Inspect Search Results.

Submit for Order   Help

Intermediate Level Interaction

Client Search operations:

- **GUI forms and graphical widget driven user interaction, capability to enter search parameters directly into 'search tree'**
- **'Canned' search screens, user selectable using CLS-standard selection dialog**
- **Customizable GUI components using CLS-standard selection dialog**

Client Search Results operations:

- **Capability to configure search results screen (columns) 'on-the-fly'**
- **'Canned' search results screens, user selectable using CLS-standard selection dialog**
- **Customizable GUI components using CLS-standard selection dialog**

Client Order operations:

- **Combined with Search Results operations**

Intermediate Search Screen

File	Edit	Option	Process		Help

Project Folder	Create/Edit Search	Inspect Results	Create/Edit Order	Get Status	Set Options

Core	PSAs	Spatial	Temporal

□ Inventory	Search Summary

Attributes

- Spatial...
- Temporal...
- Platform
- Collection
- Topic
- **Parameter**
- Processing Lvl
- Site
- Instrument
- Sensor

Values

Albedo
Brightness Temperature
Cloud Type
Clouds
Currents
Earth's Radiation
Elevation Model
Fires
Glaciers
Ozone
Precipitation
Radar
Radiance
Surface Vegetation
Temperature
Volcanoes
Water Vapor

ADD ▶

▼ **Search 1**

Delete	Clear All

Change Attribute Set...

Create a search by selecting values for the attributes displayed in the assorted folders. Edit your search by manipulating the selected values in the search summary

Submit for Order	Help

CLS-Standard Selection Dialog

Dynamic Column/Attribute Selection Dialog	☐☐

Applicable Folder

Results	☐

Preset Groups

DEFAULT
RESULTS
RESULTS1
WORKING LIST
WORKING LIST 1
ORDER
ORDER 1
CUSTOM...

CATEGORY: Attribute

🌍	CORE: Spatial
🕐	CORE: Temporal
	CORE: Processing Level
	CORE: Instrument/Sensor
	CORE: Size

Move Up	Move Down

OK	APPLY	CANCEL	HELP

Intermediate Search Results Screen

File	Edit	Option	Process	Help

Project Folder	Create/Edit Search	Inspect Results	Create/Edit Order	Get Status	Set Options

Collections/Granules	Spatial	Temporal	Instrument/Sensor	Processing Level	Size

| Results 1 | Results 2 | Results 3 | Results 4 | Working 1 | Working 2 | Working 3 |

Select Attributes	Sort Attributes	Sort Data	

Inspect Search Results.

Submit for Order	Help

Expert Level Interaction

Client Search operations:

- **Direct edit operations through full-screen 'search tree editor'**
  - expert is responsible for search syntax and semantics
  - expert is responsible for diagnostics of syntactically-incorrect or semantically-meaningless searches
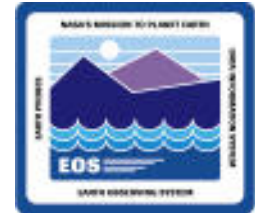- **Full-screen search editor is 'default' for expert level interaction (user may toggle on additional tools as desired)**

Client Search Results operations:

- **Same as Intermediate Search Results operations**

Client Order operations:

- **Combined with Search Results operations**

Expert Search Screen

File	Edit	Option	Process	Help

Project Folder	Create/Edit Search	Inspect Results	Create/Edit Order	Get Status	Set Options

☐ Inventory   Search Summary

▼ Search 1
   ▼ Parameter
       Volcanoes
       Glaciers
       Surface Vegetation

[Delete] [Clear All]

To create a search, type in the desired attribute name followed by a carriage return and a value.

[Submit for Order]   [Help]